

**TIMING CIRCUIT FOR SEPARATE POSITIVE
AND NEGATIVE EDGE PLACEMENT IN A SWITCHING DC-DC CONVERTER**

ABSTRACT OF THE DISCLOSURE

A timing circuit independently controls placement of the positive and negative edges of a periodic signal. This signal may then be used to control a wide variety of integrated circuit applications. The timing circuit includes separate programmable delay lines and a signal processor. Each delay line delays an input clock signal by a different increment of time. The signal processor then generates a timing signal from the clock signal, where the timing signal has a first edge controlled by the first delayed clock signal and a second edge controlled by the second delayed clock signal. The edges may be controlled so that the timing signal assumes different logical values for different amounts of time, thereby customizing the signal to any application. An example of one application includes using the timing signal control switching in a DC-DC converter.